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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,116	03/07/2003	Trevor Redvers Bridle	31180.830018.000	4711

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EXAMINER

BHAT, NINA

ART UNIT PAPER NUMBER

1764

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,116

Applicant(s)

BRIDLE ET AL.

Examiner

N. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on August 28, 2006 has been entered.

2. Applicant's amendments and arguments to the claims of August 28, 2006 have been fully and carefully considered. Applicant's amendments to the claims overcome the 112, second paragraph rejection. Applicant's amendments to the claims have removed the Bridle 5,865,956 reference as an anticipatory reference against the claims. Applicant's amendments and arguments are not persuasive with respect to the claims being unpatentable as being obvious over the Bridle 5,865,956 when combined with a newly found piece of art found when updating and conducting a new search on the newly amended claims. A new ground of rejection follows:

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridle et al. USP 5,865,956 in combination with Grady et al. USP 5,821,111

Bridle et al. teach the invention substantially as claimed. Bridle et al. teach a process and apparatus for the conversion of organic sludges wherein dried sludge is feed through a first reactor (16); the dried sludge is heated in the first reactor in the absence of oxygen to volatilize the oil producing organic materials therein resulting in a gaseous product and sludge residue, the gaseous product is then introduced into a condenser system (20) which condenses the gaseous product into useable mineral oils. The water free oil and/or noncondensables products are transferred into a second reactor (24) with solid char from the first reactor (16). The water free oil, noncondensables and char are reacted in the second reactor catalytically in the absence of oxygen to produce clean gases from the second reactor (24) which is then condensed in a second condenser system (32) to useful products such as refined oil (36), the char is the removed from the system. Bridle et al. specifically teach in Column 5, line 30 et seq. The sludge and is contacted with the revaporized oil, or oil and noncondensable gaseous produces from the condenser (20) at a temperature of 550°C

wherein reductive, heterogenic, catalytic gas/solid phase reactions for the generation of clean produces and high quality oil products takes place. This reactor can function exactly like a catalytic converter. Bridle teaches that a catalytic reaction takes place and therefore the function is the same. The reactor temperatures operate in the same range as claimed by applicant. Bridle et al. teach that the sludge is heated in the absence of oxygen at a temperature from 280°C to 600°C, which reads on the same ranges as claimed by applicant and reads on at least 250°C.

However, Bridle et al. do not teach that the gaseous products from the first reactor is transferred to a second catalytic reactor in the absence of sludge residue. Bridle et al. does not teach the specific type of catalyst being a zeolite or catalyst as recited in claim 13.

Grady et al. teach a process and apparatus for perfecting the process, which converts waste biomass into useful products by gasifying, dried sludge or waste to produce synthesis gas, the synthesis gas is then treated in a bioreactor, which uses a biocatalyst in anaerobic conditions. The bioreactor as described by Grady et al. functions equivalent to a catalytic reactor as well as a the microorganism used or biocatalyst functions equivalently to a catalyst for converting the gases from the gasifier into useful products. Specifically, Grady et al. teach the process and system (10) includes gasification unit or section (12), a heat recovery unit or gas cooler (14), a solids removal unit (16), a bioreactor (18), a purification unit or system (20). Grady et al. teach that after gasification, the gas is cooled and the gas passes through solids removal unit (16) to remove ash, slag, duty tar, oil, light hydrocarbons liquids an the like

contaminants (37) therefrom to produce synthesis gas (38) which is fed to bioreactor (18). [Note Column 6, lines 38-65] The gases react within the bioreactor the outlet from the reactor includes hydrogen, carbon dioxide that exits the bioreactor along with any nitrogen as vent gas. The vent gas is then treated by purification, which separates the hydrogen from the other gas components. Grady teaches that the microorganism within the bioreactor functions as a biocatalyst and operates in anaerobic conditions.[Note Column 7, lines 1-20]

It would have been obvious from the teachings of Bridle et al. who substantially teaches applicant's process and apparatus for the conversion of sewage sludges but for the step of removing sludge residue prior to introducing the gaseous products from step (b) of the process to the second reactor in step (d), the deficiency of Bridle et al. has been taught in Grady wherein biomass which included dried sludge is gasified resulting in char, solid residue and gaseous products, the gaseous products are separated from the solid residue/char, the gaseous products are then further treated in a second reactor which is a bioreactor but functions equivalently to a catalytic reactor resulting in useable products. The reactions taking place in the bioreactor are the same types of reactions which would take place in a catalytic reactor therefore a permissible substitution to one having ordinary skill in the art at the time the invention was made. With respect to claims 13 and 14 wherein applicant recites the specific type of catalyst used in the reactor it is maintained that It would have been obvious from Bridle et al. to chose the type of catalyst which will provide "reductive, heterogenic, catalytic, gas/solid phase reactions for the generation of clean produces and high quality oil product" which has

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been specifically taught by Bridle et al. and to select a specific type of catalyst to be used in the catalytic conversion or catalytic reaction of the revaporized oil or oil and non-condensable gases to make a useable product or low emission product clean products would have been obvious to one having ordinary skill in the art at the time the invention was made thus rendering applicant's process as a whole obvious.

6. The art made of record and not relied upon is considered pertinent to applicant's disclosure. Melnichuk et al. teaches a process for producing saleable liquids from organic materials. Note Column 3, line 66 to Column 4, line 42.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


N. Bhat
Primary Examiner
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